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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,991

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Mitsuhiro Yuasa

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EXAMINER

ROMAN, ANGEL

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/532,991

Applicant(s)

YUASA, MITSUHIRO

Examiner

Angel Jr Roman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/11/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smesny et al. U. S. Patent 5,444,637 A dated 08/22/1995 in view of Myers et al. U.S. Patent 6,102,284 A dated 08/15/2000.

Regarding claims 1 and 11 Smesny et al. disclose a process monitor for monitoring a process in a process chamber by a sensor wafer (10) having a sensor formed on a semiconductor wafer (10) (see Abstract), comprising a pair of capacitors (16) on the

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sensor wafer (10) as a power supply and a ROM (see column 5, lines 37-42), wherein the capacitors are made with material that does not contaminate the process chamber (see column 6, lines 64-68, and column 7, lines 1-12). Smesny et al. is applied as above but lacks anticipation on disclosing that the ROM is for storing a keyword. Myers et al. discloses storing a keyword in a ROM (see column 5, lines 1-9), therefore it would have been obvious to a person having ordinary skills in the art at the time the invention was made to disclosed the ROM in the primary reference of Smesny et al. for storing a keyword since it would provide a desire security for accessing stored information. Furthermore disclosing that a ROM is for storing a keyword is only considered to be an intended use to the ROM and obvious to one of ordinary skills in the art since Smesny et al. already discloses a ROM and accessing the ROM using a keyword is conventional in the art.

Regarding claim 2, Smesny et al. disclose a memory to store measured data obtained by the monitoring see column 3, lines 66-68 and column 4, lines 1-10).

Regarding claim 3, Smesny et al. disclose a timer (66), which is used to specify a measuring time and a measuring period (see column 8, lines 54-62 and column 12, lines 5-10).

Regarding claim 6, Smesny et al. disclose a semiconductor manufacturing apparatus having the process monitor, comprising a process monitor housing unit to store said process monitor (see figure 5).

Regarding claim 7, Smesny et al. disclose a charging unit to charge said capacitor, which is the power supply of the process monitor (see column 6, lines 64-68, and column 7, lines 1-12).

Regarding claim 8, Smesny et al. disclose a reader/writer to read and write the measured data stored in said memory (see column 5, lines 57-68).

Regarding claim 9, Smesny et al. disclose a control unit which compares the measured data read by said reader/writer with predetermined reference data and controls the manufacturing process in predetermined way, if the measured data exceeds a predetermined range of the reference data (see column 8, lines 20-66).

Regarding claim 10, Smesny et al. disclose the process monitor further comprising a controller (22).

Regarding claims 12 and 13, Smesny et al. disclose connected capacitors (16) but lacks anticipation on disclosing the type of connection, e.g. series or parallel. It would have been obvious to a person having ordinary skills in the art at the time the

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invention was made to disclose a desired connection type, e.g. series or parallel, for the capacitors (16) in the primary reference of Smesny et al. since Smesny et al. already discloses a capacitor connection and selecting an optimum connection is only considered to be routine optimization of Smesny et al. disclosure.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smesny et al. U. S. Patent 5,444,637 A dated 08/22/1995 in view of Myers et al. U.S. Patent 6,102,284 A dated 08/15/2000 as applied to claims 1-3 and 6-13 above, and further in view of Moradi et al. U.S. Patent 6,607,965 B2.

Smesny et al. as modified by Myers et al. is applied as above but lacks anticipation on disclosing the materials used to form the capacitor, e.g. a stack of polysilicon and silicon nitride on a wafer. Moradi et al. discloses capacitors made by stacking polysilicon and silicon nitride on a wafer, therefore, it would have been obvious to a person having ordinary skills in the art at the time the invention was made to use the capacitors in the primary reference of Smesny et al. as modified by Myers et al. having the capacitor materials as disclosed in Moradi et al. in order to prevent pin-holes problems (see Moradi et al., column 1, lines 53-67).

Response to Arguments

5. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ma, Ma et al., and Leedy disclose process monitor comprising monitor wafers having sensors for monitoring semiconductor-manufacturing processes.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel Jr Roman whose telephone number is (571) 272-6369. The examiner can normally be reached on IFP Mo-Fr 6am-3pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR



MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER